

Geographic Distribution of CSHCN and their Providers

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Medical Home

- **“All children with special health care needs will receive coordinated, ongoing, comprehensive care within a medical home”**
- **Comprehensive Care**
- **Continuous Care**
- **Care Coordination**
- **Culturally Sensitive**

CSHCN Definition

- **Federal:** “Children with special health care needs are those who have or are at increased risk for chronic physical, developmental, behavioral, or emotional conditions and who also require health and related services of a type or amount beyond that required by children generally.”
- **Michigan:** A person under age 21 “whose activity is or may become so restricted by disease or deformity as to reduce the individual’s normal capacity for education and self-support.”

Michigan’s CSHCS Program

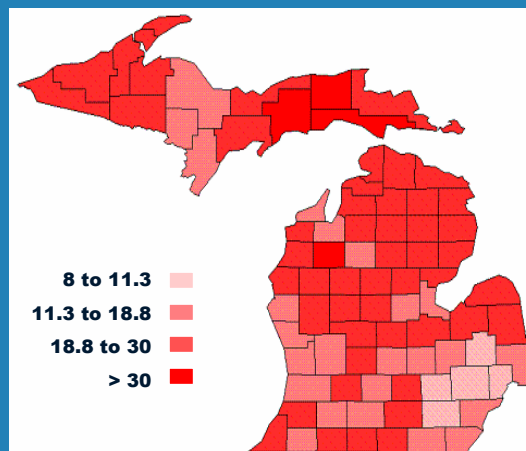
- ICD9-based eligibility: 2600+ codes
- Frequent dual-enrollment in Medicaid
- Acts as a final payer source for services
- Aids care coordination for specialty services and medical equipment
- Pays transportation costs for financially-eligible persons

CSHCS Population Demographics

- **Serves ~35,000 children per year**
- **69% White, 21% Black**
- **55% Male, 45% Female**
- **Most prevalent conditions are congenital anomalies, cerebral palsy, and hearing loss**

Source: Michigan Data Warehouse, 2002-03

Age-Adjusted Prevalence of CSHCS Enrollment, Ages 0 to 17 Years, 2002 to 2003 (Rates per 1000 Children)



**Based on 2003 census projections*

Objectives

- **Assess the geographic distribution of CSHCS children and their providers**
- **Evaluate care coordination within Michigan's CSHCS program**

CSHCS Data - Children

- **Born between 1992 and 2003**
- **Enrolled at least one month between 2001 and 2003**
- **Primary & secondary diagnoses (ICD9 codes)**
- **Residential information**

CSHCS Data – Providers

- **Provider specialty**
 - Physicians combined with surgical counterparts (example neurologist & neurosurgeon)
- **Service location**
- **Diagnosis for which the provider was authorized to provide services**

Linking Children to Providers

1. **Matching by ICD9 code and zip code**
2. **Matching by ICD9 code and county**
3. **Matching by diagnostic group and county**
4. **Remainder are out-of-county**

Study Population Demographics

- **25,516 Children age 0 to 11**
- **69% White, 22% Black**
- **56% Male, 44% Female**
- **62,716 Referrals**
- **2.5 Referrals per child**
- **80.7% with at least one referral**

Results

- **50% of referrals were to in-county providers**
- **Percentage of in-county referrals varied by:**
 - **Medical service of the provider**
 - **Child's medical condition**
 - **Child's residence**

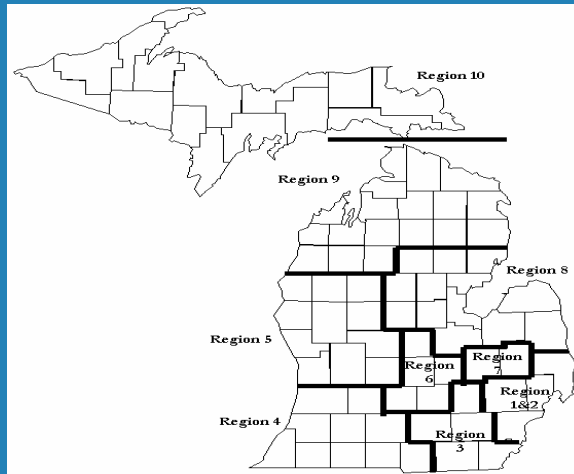
Percentage of In-County Referrals by Medical Service, Ages 0 to 11 Years, 2001-2003

Medical Service	Number of Referrals	Number of In-County referrals	Percentage of In-County Referrals (%)
Nursing & Case Management	2,055	1,341	65.3%
General Practice	20,325	11,594	57.0%
Speech & Physical Therapy	1,907	1,074	56.3%
Ophthalmology	2,579	1,447	56.1%
Pulmonology	1,024	513	50.1%
Otolaryngology	2,044	987	48.3%
Neurology	2,853	1,370	48.0%
Dental	778	361	46.4%
Gastroenterology	440	198	45.0%
Cardiology	2,105	879	41.8%
Orthotics & Prosthetics	3,563	415	11.6%

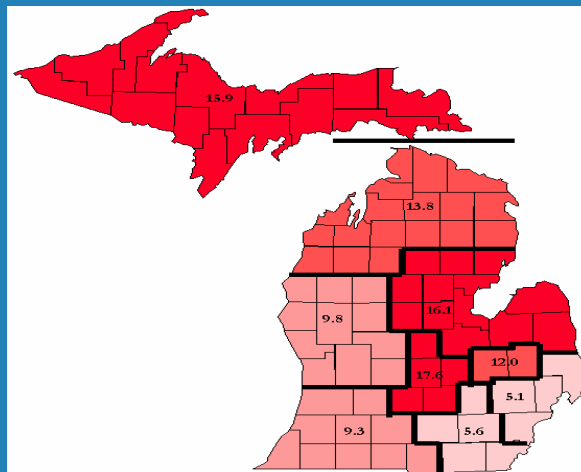
Percentage of In-County Referrals by Diagnostic Group, Ages 0 to 11 Years, 2001-2003

Diagnosis	Number of Referrals	Number of In-County Referrals	Percentage of In-County Referrals (%)
Anemias	1,559	1243	79.7%
Respiratory Disorders	5,254	3326	63.3%
Asthma	2,402	1516	63.1%
Hemophilia	433	270	62.4%
Juvenile Diabetes	1,756	987	56.2%
Cerebral Palsy	7,725	4077	52.8%
Epilepsy	1,909	959	50.2%
Congenital Anomalies	20,023	8594	42.9%
Hearing Loss	978	418	42.7%
Cystic Fibrosis	755	266	35.2%

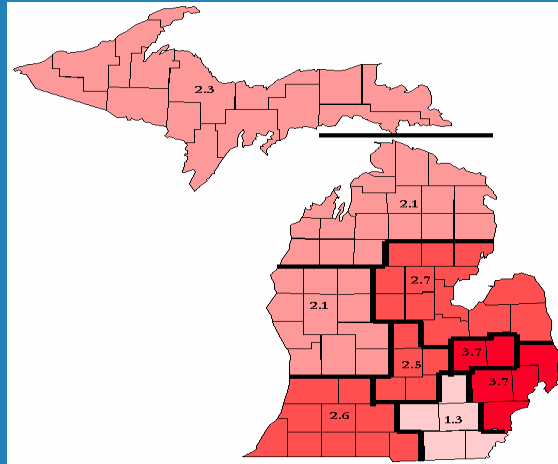
CSHCS Proposed Regions



Prevalence of CSHCS Children with Asthma by Region, Ages 0 to 11 Years, 2001-2003 (Rates per 10,000 Children)



Number of CSHCS Children with Asthma per Authorized Provider by Region, Ages 0 to 11 Years, 2001-2003



Conclusions

- Referrals to in-county providers vary by condition, specialty, and residence
- 80% had at least one referral
- 50% of referrals were to in-county providers



Strengths/Limitations

- **Strengths**
 - Provides a starting point for more in-depth analysis
 - Geographic information allows for multi-level potential
- **Limitations**
 - Data quality
 - Multiple service locations can lead to misclassification



Public Health Implications

- **Visualize the service infrastructure**
- **Evaluate care coordination**
- **Identify areas of need and adjust services accordingly**



Thank You

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